

SCIENCE.—SUPPLEMENT.

FRIDAY, APRIL 30, 1886.

MULTIPLE PERSONALITY.

AMONG the most interesting of the cases, says the *Spectator*, on which the Society for psychical research has recently centred the thoughts of investigators, is one of a patient who is called 'Louis V.,' and who was born in 1863. He is said, in the summary of his case, as given by Dr. Myers, and commented upon before the society by Mr. F. W. H. Myers, to have six different states of consciousness, all of them more or less accompanied by distinct physical conditions; but only in one of these six states is his memory something like that of an ordinary man; that is, able to recall the larger number of the various phases through which his life has passed. Even in this sixth state there are a few blanks in his memory; but in all the others he appears to remember only a few discontinuous portions of his history, and to forget completely those years in which his physical state was quite different from that in which he then finds himself. Thus, when he has paralysis of the right side (which is connected with a morbid condition of the left side of the brain), nearly twenty-one years of his twenty-three years of life are entirely wiped out for him. But even then a certain application of soft iron to his right thigh restores to him the memory of the greater part of his life, dispels temporarily all paralysis, and leaves only a few comparatively small gaps in his memory of his career. Again, under certain magnetic conditions, the hysterical paralysis—for the origin of the whole complaint seems to be a kind of hysteria—can be transferred from the right side (which involves a morbid condition of the left brain) to the left side, involving the same inertia of the right side of the brain; and this change, which is quite sudden, is accompanied by a very curious change in the apparent aspect of his character. From being arrogant, violent, and profane, with indistinct utterance and complete inability to write (owing to the paralysis of the right hand), 'Louis V.' becomes instantaneously quiet, modest, and respectful, speaking easily and clearly, and able to write a fair hand; but the greater part of his life is still a blank to him.

In a word, the change from 'Louis V.' with paralysis of the right side, to 'Louis V.' with paralysis of the left side, is not very different from

the change which Mr. Louis Stevenson has described in the weird tale called 'The strange story of Dr. Jekyll and Mr. Hyde,' when Mr. Hyde is suddenly transformed into Dr. Jekyll—except, of course, that there is no alteration in the general bulk or stature of the body. The hysterical paralysis of the right side (involving the opposite side of the brain) leaves him a rude, presumptuous, illiterate boor; while the paralysis of the left side (involving the right side of the brain) finds him a docile, respectful, educated young man. The other five states of consciousness—induced by different physical means, though in some cases, indeed, not by physical means at all, but merely by authoritatively telling the young man that he is in one of his other states—are more or less intermediate between these two; and in one of them (the sixth as described) the man's character, though not apparently so good as in his best state (when the left side of the brain, the side supposed to be most frequently exerted in thinking and speaking, is active, and the right side is passive), is much better than in his worst, while his memory commands the greater part of his life, and the paralysis vanishes altogether. But in this state, apparently, it is not possible to keep him long, for his normal condition is at present that in which he forgets all the best part of his life, and is violent, arrogant, and profane.

Now, Mr. Myers apparently desired to persuade the Society for psychical research, of which he is one of the pillars, that this case points to a double personality in each of us,—one represented by the predominant activity of the left side of the brain, the ordinary personality; while the other, occasionally manifested in dreams or abnormal conditions of any kind, represents, for any one in whom it is manifested, what Mr. Hyde was to Dr. Jekyll, the more savage and brutal side of the man, the coarser, more vulgar, unreflective, overbearing side. And he even goes so far as to suggest that the activity of each separate side of the brain represents the command of a quite different sphere of knowledge; so that a man whose right brain is suddenly called into activity, while his left brain is lulled to sleep, may manifest not only a quite different character from his ordinary character, but also a quite different range of positive knowledge. In Mr. Myers's belief, the ruder character, which is best manifested by the activity of the right hemisphere of the brain, may yet have an instinctive insight to which the more nor-

mal and better disciplined character which uses most easily the left hemisphere of the brain is a stranger; so that, in a sense very different from that of the original saying, the left hand does not indeed know what the right hand doeth. If there be any truth in this theory, it must certainly be extended. In the case of 'Louis V.,' there appear to be no less than six different conditions of consciousness, in each one of which there must be some different proportion between the activity of the right and left brain. It is not merely a case of right brain *v.* left, but of various proportions of activity,—say, all right and no left, three-quarters right and one-quarter left, half right and half left, one-quarter right and three-quarters left, no right and all left, and lastly, perhaps, the equal co-operation of right and left. To each of these conditions a different personality would correspond; so that 'Louis V.,' instead of being two different persons in turns, is, perhaps, six different persons in turns, according to the variety of the mixture.

Of course, if this were an adequate explanation of the case, the application of a bar of steel to one arm, or of soft iron to the right thigh, would change one person into another person; or, in other words, personality would express nothing more than certain temporary phenomena, which, by the use of either physical or moral agencies, you could transform at will, if not into their opposites, at least into qualities as different as arrogance from modesty, or irritability from patience. We say 'by either physical or moral agencies,' because, as we have already said, it did not necessarily take any magnetic influence to produce the change: the change was also effected by simply assuring the young man that he was once more what he had once been, even though he had then absolutely forgotten this antecedent condition of his own consciousness; and with the belief, the physical state of the body as regarded paralysis or activity, itself changed; that is, as amongst his various selves, you could determine for him which of them he should be.

But what does all this prove? It proves not in any sense multiple identity, but what we have all of us always known,—that a man may easily lose the conscious clew which connects one phase of his life with another phase. We all lose, and lose for the most part completely, the clew connecting infancy with childhood. The very aged often lose, and sometimes completely lose, the clew connecting manhood and age. Even in the fulness of our strength, illness often wipes out of our memory a certain limited term of weeks or months. But then, it will be said, a man seldom or never loses the connecting-link of character.

A selfish and irritable man is selfish and irritable throughout all his phases; a self-forgetful and patient man is self-forgetful and patient throughout all his phases; whereas, in this case of 'Louis V.,' we have a man transformed, in the twinkling of an eye, from an arrogant and ignorant boaster, into a quiet and docile learner. Does not that imply more than a change of memory or mental scenery? Does it not imply a change in the attitude of the will? Is it conceivable that a will trained to defer to the lessons of higher minds in one state, should lose all the training it had acquired, even though it had lost the memory of all who had given that training? If humility and arrogance are qualities only superficially distinct, and really severed from each other only by the memory or oblivion of a year or two of personal training, they are not moral qualities at all. Unless through every change of circumstances the thread of personality is continuous, personality is an illusion; and if it is continuous, then nothing can charm away a quality of the will, once genuinely acquired, unless it be the voluntary treachery and default of the will itself. If the left brain is a 'new creature,' but the right brain is unregenerate, then the two brains are not brains of the same person, and one of those persons is not responsible for the other person.

But the truth is, that nothing of this kind is even rendered plausible as an hypothesis by the cases of alternating consciousness of which morbid pathology treats. We might almost as seriously treat the healthy man as responsible for his delirious ravings in fever, as treat one of these hysteric patients as responsible for what he thinks and does under hysterical conditions. Grant, if there be evidence for it, that the abnormal activity of the right hemisphere of the brain implies the activity of the lower nature. If that activity be caused by disease alone, the patient is not responsible; but we all know that the activity of the lower nature may be caused, not by disease alone, but by either the application of a stimulus which we know we could withhold, or the neglect of a self-restraint which we know we could exercise. The attempt to draw inferences as to our normal and healthy state from the consideration of abnormal and unhealthy states, is a radically misleading one. All double or multiple identities are signs of disease. And, of all mistakes in psychology, perhaps the worst is that which takes its standard of health from the study of disease, instead of taking the cue for the healing of disease from the study of health. One essential note of mental health is a strong personal identity. A certain sign of disease is that hysterical multiplicity of states which presents its most typical

forms either in the rapidly changing phantasmagoria of delirium, or in the multiple vision of an over-stimulated brain. Exactly that which is chiefly conspicuous by its absence or its attenuation in all forms of hysteric disease, is personal identity, of which some of the pillars of the 'Society for psychical research' mistakenly hope to find the secret by studying the cases of those who pass their lives in disordered dreams.

SOME REMARKABLE GEMS.¹

A FEW remarkable gems have been recently purchased by private buyers in the United States. One of these is a chrysoberyl cat's-eye weighing



FIG. 1.

80½ carats. Its dimensions are 23 mm. long, 23 mm. wide, and 17 mm. thick. The color, which is very even, is a superb brownish golden yellow, and the line is as even and distinct as is possible in a gem of such size. The cat's-eye hitherto awarded the palm is part of the 'Hope collection' included in the Townshend bequest to the South Kensington museum (fig. 2). This famous gem



FIG. 2.

measures 35.5 by 35 mm. in its true dimensions (the Hope catalogue gives the length as two inches, but this is only the case when measured over the dome). It formed part of the crown jewels taken from the King of Kandy in 1815. The crystalline markings are so arranged that the lower half shows an altar surmounted by a torch. The line is not straight, but inclined about 15 degrees. The color is dark, and the line is not so strongly marked as it should be in a fine gem.

¹ From the Transactions of the New York academy of sciences, vol. v. No. 6.

Two of the largest known Ceylonese Alexandrites are to be noted. One of these weighs 28 23-32 carats, and its dimensions are 32 mm. by 16 mm. by 9 mm. In daylight its fine rich green color is tinged with red, but by gaslight it is a rich columbine-red, and scarcely to be distinguished from a Siamese purplish-red spinel. The other stone is the largest on record (fig. 3). It weighs



FIG. 3.

63½ carats, and measures 33 mm. by 32 mm. by 15 mm. It has a yellow grass-green color by daylight, but changes to a raspberry-red by artificial light.

The finest cut beryl (aquamarine) ever found in the United States is from Stoneham, Me. (fig. 4).

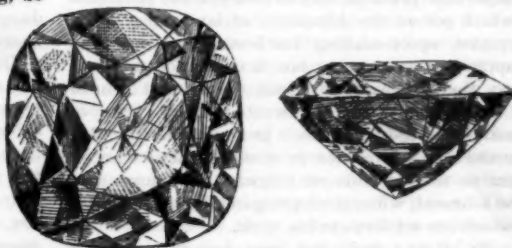


FIG. 4.

It measures 35 mm. by 35 mm. by 20 mm. It is a magnificent brilliant-cut, and weighs 133½ carats. The color is a rich bluish-green, and, with the exception of a few minute hair-like internal striations, is perfect.

A ruby cut *en cabochon* is exhibited from Franklin, Macon county, N.C., showing somewhat the asteria effect. It is of good normal color, and quite free from flaws. Its dimensions are 5.5 mm. by 4 mm., and its weight 1 1-16 carats.

GEORGE F. KUNZ.

RACE AND LANGUAGE.

THAT the character of a people, like that of individuals, is indicated by their speech, is a common observation. We all understand that the French, the German, and the Italian languages have a certain consonance with the mental traits of the nations that speak those tongues; and this fact may reasonably lead to certain inquiries.

Why is it natural to Frenchmen, Germans, and Italians, to Malays, Mongols, Arabs, Azteks, and Zulus, to talk in a certain way? What is the origin of those traits of character which develop themselves in these different modes of speech? And what are the laws which govern this development? Speech, like every thing else, is subject to laws; and as zoölogists know, from the fossil skeleton of some mammal of the tertiary era, the kind of life which the creature led, and the food that it ate, so a philologist ought to be able to judge, from the vocabulary and grammar of an extinct language, what sort of people were those who spoke it.

The question is one of great interest to anthropologists as well as to philologists; yet it seems to have attracted, until now, comparatively little attention. An English—or, rather, if we must make the 'home-rule' distinction which he would perhaps disdain, an Irish—scholar has just given to the world an elaborate work, in which he has endeavored, with much philosophical acumen and a careful analysis of many languages, to solve this important problem, and to establish the principles which govern the formation of languages.¹ The epithet 'epoch-making' has been somewhat freely applied of late years; but it is not too much to say that the work to which the learned dean of Clonfert has evidently devoted many years of assiduous study and much profound thought will make a new departure in ethnological science, so far as this depends on language. So much may be affirmed, without adopting in all cases the views which are set forth in his work.

Mr. Byrne finds the most important quality which influences the structure of a language to be the greater or less degree of mental excitability in the people who speak it. His arguments on this point are ingenious and forcible, and his main example is a striking one. According to the greater or less persistency with which the thought of the speaker dwells on his subject will be the tendency to compactness or looseness in the framework of his speech. The aborigines of Africa and those of America offer a notable contrast in this respect, and the contrast is faithfully reproduced in their language. The slow, cautious, considerate Indian temperament is shown in the polysynthetic—or, as Mr. Byrne prefers to style it, the 'megasyntetic'—character of the Indian languages, tending to combine many circumstances and qualifications in a single long and many-jointed word. On the other hand, however, the African quickness of thought, and lightness of mood, are

displayed in the brief fragmentary words, and loose, disjointed phrases, which compose the ordinary speech of the tribes of that continent. Many examples are given in illustration of these opposite characteristics, both of mind and of speech, and the author may be fairly said to have proved his thesis.

He is not content with establishing the fact of this difference of character, and tracing to it the difference in the style of language. His next inquiry relates to the causes in which this difference of character originates. These causes he has no difficulty in finding in the different influences to which the inhabitants of the two continents are exposed. America lies, for the most part, in the temperate zones; and the portions which are within the tropics are either elevated into rugged tablelands, or covered, as in Brazil, with dense forests. The life of the people is almost everywhere one of hardship and anxiety,—the life of hunters, fishermen, and agriculturists,—requiring constant toil and watchfulness. In Africa, mainly a tropical country, the bountiful soil and genial climate make subsistence easy, and tend to produce in the people an impulsive and thoughtless character.

The author seeks to trace the operation of these and similar influences in the formation of the best-known languages in all parts of the globe. He submits each idiom to a minute scrutiny, and endeavors to point out the part which the habits of the speakers, and the natural influences that surround them, have had in producing their peculiarities of speech. If in any instances he has been unsuccessful, it is apparently because he has not sufficiently adhered to his own method, and has failed to take into account all the qualities of the human mind which would affect the language. An instance of this failure may perhaps be found in his attempt to account for the fact that in some languages the adjective precedes, and in others follows, its substantive. This difference in arrangement proceeds, he thinks, from the more or less careful attention which the communities who speak the languages are accustomed to give to the nature of substantive objects. But what reason is there for thinking that the Algonkin Indians, in whose speech the adjective precedes the substantive, pay more attention to the nature of things than the Iroquois, who place the adjective last, but are nevertheless, to all appearances, the more careful and industrious race? Can it be said that the artistic Italians, in whose language the adjective usually follows the noun, think less of the nature and qualities of things than do the Magyars, who place the adjective first? The true solution of this question seems to be found in the

¹ *General principles of the structure of language.* By JAMES BYRNE, M.A., dean of Clonfert. In 2 vols. London, Trübner, 1885. 8s.

influence of a powerful faculty which the author has omitted, in this and other cases, to take sufficiently into account, — the faculty of imagination. The English language teaches us a lesson on this special point. In ordinary speech the adjective precedes its substantive; but the moment the language rises into poetry, the order tends to be reversed; and the higher the imagination, the stronger this tendency appears.

Thus we have in Byron —

"Adieu, adieu! My native shore
Fades o'er the waters blue."

And in Scott —

"Announced by prophet sooth and old,
Doomed doubtless for achievement bold."

And still more strikingly in Milton's picturesque epithets —

"Meadows trim, and daisies pied,
Shallow brooks, and rivers wide."

We can understand how a vivid fancy may bring the object itself first before the mental vision, and that a momentary delay may be needed to discriminate and express its most striking qualities. There is no question, also, that the Iroquois, like the Italians, are a highly imaginative people, much given, as the reports of their councils show, to poetical improvisations. And finally, if we are to inquire to what influences both Italians and Iroquois owe their imaginative powers, we may perhaps find them in what Buckle would have called the 'aspects of nature,' — the mountains, rivers, forests, and seas which surround them.

Mr. Byrne is of opinion that the 'inflected' idioms — a class which he restricts to the Indo-European and Semitic tongues — indicate the highest grade of intellect in their speakers. Our pride of race would lead us blushing to accept this compliment, until we find that we must share it with various barbarous septa, whom this pride of race would look down upon. Mr. Byrne, like other European scholars, — who cannot be altogether acquitted of race-prejudice in this respect, — has overlooked the fact that among the aboriginal tribes of America are several whose languages are as clearly inflective as the Greek or Arabic. Thus in Zeisberger's 'Delaware grammar' we find, as derivatives of *tuen* ('to say'), *n'dellan* ('I say to thee'), *lellane* ('if I say to thee'), *lake* ('if I say to him'), and, in the imperative, *ill* ('say thou'), *luel* ('say on'), *lil* ('say to me'), *lo* ('say to him'), and the like. Pages might be filled with such examples of simple inflection, which, while they show clearly enough the polysynthetic cast of the language, have no more trace of the agglutinative cast than is to be found in any language of Europe. Duponceau, who translated this grammar

sixty years ago, remarked, in reference to the views which had been expressed on the subject by Baron William von Humboldt, "The learned baron will, I hope, recognize in the conjugations of the Delaware verbs those inflected forms which he justly admires; and he will find that the process which he is pleased to call 'agglutination' is not the only one which our Indians employ in the combination of their ideas and the formation of their words." The Delaware is not alone. On the other side of the continent, in the languages of Oregon, pure inflections abound. Thus the Sahaptin, as is shown in the excellent grammar of the Rev. A. B. Smith, has the substantive verb, *hiacash* ('to be'), — used, it may be remarked, exactly like our own substantive verb, — which in the 'remote past' tense makes *waka* (*a* as in 'father'), 'I was,' and in the 'recent past,' *waka* (*d* as in 'wall'), 'I have just been;' the only difference being in the change of the vowel-sound, precisely as in a Semitic conjugation.

What, then, shall we say? Shall we refuse to accept inflections as a proof of mental power? Or shall we more generously — and perhaps more scientifically — admit that they prove the barbarous speakers of these inflected American tongues to be equal in natural capacity to our own barbarous ancestors, the gifted inventors of the Aryan speech?

In spite, however, of such minor oversights, Mr. Byrne's work must be pronounced one of the most important and valuable among recent contributions to linguistic and ethnological science. The correctness of its main principles cannot reasonably be questioned; and the amount of information which the author has brought together and happily condensed, respecting a vast variety of languages spoken in every quarter of the globe, will make his treatise a treasury of reference for philologists.

H. HALE.

THEORETICAL OPTICS.

THE wave theory of light was so firmly established by the labors of Fresnel from 1815 to 1827, that but few leaders in physical science continued to defend the Newtonian theory after that time. The only logical objection to the undulatory theory was its supposed incapacity to explain the phenomenon of dispersion, although Fresnel had, with an acuteness almost peculiar to himself, suggested, as early as 1822, that this might find its explanation in the fact that the molecules of a transparent substance are not separated by

Theoretische optik gegründet auf das Bessel-Sellmeier'sche princip. Zugleich mit den experimentellen belegen. Von Dr. E. KETTNER. Braunschweig, Vieweg, 1885. 8°.

intervals indefinitely small compared to a wave-length of light. This suggestion was worked out by Cauchy between 1830 and 1835, and for a long time was supposed to complete the undulatory theory of light. But during the last few years the theory has undergone a very active critical revision by physicists, prompted by two capital discoveries; namely, the extraordinary relations between the electrical and optical properties of bodies, and the anomalous dispersion of light. Students of physics are well aware that these two discoveries are prompting rapid developments in two distinct lines, — the electro-magnetic and the molecular theories of light.

This book by Dr. Ketteler is a very important contribution to the subject from the stand-point of molecular dynamics, the problems proposed and solved being much the same as those treated by Sir William Thomson in his lectures at Baltimore in 1884. Starting with Sellmeier's paper of 1872, on anomalous dispersion (which establishes certain differential equations closely allied to Bessel's differential equation of the motion of a pendulum in air), the author passes in review the theories of Helmholtz, Meyer, and Lommel, and then develops his own, which differs from the others in its assumptions as to the nature of the reaction of the molecules of matter upon the ether. It is well known that the essential feature of these theories is that the molecules of gross matter have, in general, definite periods of vibration comparable to the periods of light waves, and also (since Sellmeier) that they are subject to a 'damping' effect. As in this treatment the absorption of the medium becomes of equal physical importance with its refractive power, Ketteler proposes to define as the law of dispersion the equation containing complex variables, expressing both the curve of refraction and the curve of absorption.

With this basis, the author derives a law of refraction for transparent bodies and those having a single symmetrical absorption band, which contains only four constants, and which satisfies observations remarkably well. Even for the flint glass for which Langley has given indices corresponding to wave-lengths from 2.36 to 0.34 (i.e., for relative wave-lengths varying from one to seven), the formula seems to be wholly adequate. This must certainly be regarded as a remarkable feat; but, as the author concludes (p. 445) that he has accounted for all the phenomena of light except phosphorescence and fluorescence, this alone does not establish the claim of the book to unqualified praise. It is true that his treatment leads to the accepted solutions of Fresnel for the phenomena of reflection, refraction,

and double refraction; but whether the processes are strictly legitimate may perhaps rest under some suspicion, in view of the fact that no one, before him at least, has succeeded in establishing a satisfactory theory for all of these phenomena on the basis of molecular dynamics. Even Sir William Thomson, in the Baltimore lectures, who approaches the problems from a stand-point not unlike that of Ketteler, except that he dispenses with terms involving viscosity as unphilosophical, emphasizes the statement that double refraction does not yield to the method.

It is a curiosity worth noting, that the author's theory explains the enormous dispersion of bisulphide of carbon, not by the great 'dispersive power' as defined by the second constant in Cauchy's equation, but by the exceptionally great wave-length of its absorption band, which is calculated as equal to 0.220.

The discussion of the electro-magnetic theory of light is suggestive, and, did it not demand too much space, some of it might well be quoted. This closes the first part of the book. The second part, of about two hundred pages, is devoted to the discussion of the author's experiments to test his theories: they, of course, largely relate to the phenomena of anomalous dispersion.

THE ROTIFERA.

WE have the pleasure of reviewing a very excellent work, which will be as welcome to the amateur and microscopist as serviceable to the professional zoologist; for, to judge by the two parts already issued, the monograph of the Rotifera, by Mr. Hudson and Mr. Gosse, will be excellent throughout. The work is to be in two volumes of three parts each, with over thirty double plates, of which nearly all are to be colored. Its aim is to monograph the known species of the class, giving an improved classification, and including such anatomical observations as can be made upon the living specimens.

In accordance with this aim, the first chapter is an outline of the anatomy of the group Brachionus rubens, serving as type of the class; the descriptions, which are clear, being helped out by a plate of fairly good anatomical figures. The chapter is satisfactory, except that Mr. Hudson has indulged in the freak of describing the excretory apparatus, or, as it is often called in view of its homologies, the segmental organs, under the head of 'vascular system.' This is the same surprise to us that it would be to find the kidney

The Rotifera; or, Wheel animalcules. By C. T. HUDSON, assisted by P. H. GOSSE, F.R.S. Parts I. and II. London, Longmans, 1885. 8°.

described under circulatory organs. Perhaps the author meant only that the excretory organ consists of branching tubes or vessels, and is vascular, according to the etymological, though not to the technical, meaning of the word. Odd, too, is his designation of the ciliated funnels as 'vibratile tags.'

Chapter ii. gives a succinct, well-prepared and instructive history of the literature of the subject. Chapter iii. discusses the classification, and, after reviewing the previous systems, advocates a new one, which is more convenient than its predecessors, but, like them, artificial and arbitrary. The new system may stand for the present, but only as a convenient makeshift, pending the establishment of the permanent and natural classification upon a true morphological basis. Chapter iv. is devoted to sketchy notes on the habits and habits. It concludes the first part.

The second part is entirely concerned with the monograph proper, and deals with the Flosculariadae and Melicertidae. The British species are figured and described with considerable detail, and several new ones are added. Concerning most of them numerous and valuable observations on the anatomy are also recorded, both in word and picture: for the authors have embodied results from their own original investigations so largely as to give their work importance as a contribution to zoological knowledge. The foreign species are also described, and in most cases figures of them are reproduced. It results that an urgent need is well met, for it is about quarter of a century since the last general revision of the rotifers was published in Pritchard's 'Infusoria.'

The plates have the figures on quite a large scale, and are partly colored. The drawings represent characteristic appearances, and are instructive. The lithographer has done his work quite, though hardly very, well. The printing of the text is good, and several fonts are so employed as to essentially facilitate the consultation of the pages.

To still further characterize the work, it must be added that the style is simple, direct, and of a distinctively literary quality. It is pleasant to reflect that most English scientific writers avoid both the pompous prolixity of the French and the uncouth cumbrousness of the Germans.

The morphologist will miss much from Hudson and Gosse's treatise, for it is essentially descriptive even when it touches upon anatomical matters. We have found no indication that the authors have considered the affinities of rotifers, nor the remarkable demonstration by Hatschek of the fact that they are the living representatives of the ancestral form common to worms, mollusks, and

bryozoans, — the ancestral form which is still preserved to us in veligers, Lovén's larvae, etc. There can be little question that nearly all bilateral animals, except the Echinodermata, are derived from rotifer-like ancestors. It is this conclusion which renders the investigation of the wheel animalcules so important at present, and which causes regret that Mr. Hudson does not apparently include the morphological significance of the class within his range of study. C. S. MINOR.

PROPER NAMES.

THE subject of proper names, on which we have an extended scientific literature, has so far not had the good fortune to fall into the hands of a writer possessed of both philological training and the talent for making his subject popular. The author of the present work disclaims all pretensions to have produced a philological treatise: indeed, the specialist would very soon remark, that, for such a task, Dr. Kleinpaul is hardly well enough versed in the principles of the modern school of philologists, if he makes such observations as this one: "Es fragt sich nur ob *sosor* ein *t* eingebüsst oder *schwester* ein *t* eingeschoben hat" (p. 51). *Sosor* (later *soror*) cannot have lost a *t*, because *st* is about the most persistent combination of consonants to be found anywhere, and the *t* is never lost in Latin.

Leaving out of the account a number of 'philological' excursions of this character, which the author might have very well dispensed with, as they have little or no bearing upon the subject, we must admit that Dr. Kleinpaul has produced an extremely readable book, based in its details, in the main, upon the latest and best authorities on etymology, with the exception of a few words where the author adheres to antiquated derivations (cf. *daughter*); while the general treatment and classification of the subject-matter are decidedly interesting and original. The book is not, like some others of similar pretensions, merely a dictionary of curious names, like the puritan What-ever-may-contrive-those-which-are-to-you-contrarious-praise-God Pimpleton, or the aristocratic Von-der-Decken-vom-Himmelreich-zum-Kuhstall, although such are also treated of in their proper places; but it is an attempt at a logical, not a philological, classification of proper names according to their origin; and while, of course, the list of names must necessarily be incomplete, it seems that the author has overlooked no important source from which names for in-

Menschen- und wälkernamen. Etymologische streifzüge auf dem gebiete der eigennamen. Von RUDOLF KLEINPAUL. Leipzig, Reissner, 1886. 8°.

dividuals, families, or peoples, are drawn, — from favorite national dishes, like Jack Pudding for an Englishman; and Käsekrämer for a Swiss, to the cardinal virtues, like the Puritan Faith and Charity; from bodily peculiarities, like Oedipus ('swollen foot') and Colfax ('black hair'), to offices and dignities, like Schulze and Richter; from calendar-terms, like Augustus and Robinson Crusoe's Friday, to meteorological conditions, like Storm and Schneidewind; from trades and occupations, like Smith and Taylor, to articles of dress, like Caligula and Quijote; from oaths, like Jasomirgott (*ja, so mir Gott so helfe*), to kind parental wishes, like Fürchtegott and Bleibtren.

These principles of forming proper names are classified and grouped in logical sequence, and they are considered in their proper relations to the growth of human society. We wish to take issue with the author upon the principle laid down in the introduction; viz., that the first source of proper names is to be found in the limitation of general terms. Thus a primitive tribe, separated from other people, would call the only river in the vicinity of their domicile 'the river,' but, on becoming acquainted with other rivers, would apply distinguishing epithets to their particular river, calling it, for example, the Red River, thus forming a proper name. There seems a certain lack of logic in this reasoning, because, as long as a people know only one river, the term 'the river' is really a proper name; and it only ceases to be one when the people begin to apply the same word to all objects of the same kind. Thus it would be more correct to say that proper names are the starting-point; that they afterwards become generic terms by being applied to other objects of the same kind; and that, as necessity arises, new proper names are formed from them by the addition of distinguishing epithets.

The strength of the book lies in the fact that not only odd and rare names are taken into the account, on the origin of which we necessarily reflect when we meet them, but the origin of the most common every-day names has received a philosophical treatment. This strength of the book is also its weakness. The author, forgetting that he was not to give us a dictionary, has not always confined himself to mentioning a few characteristic examples, but has given us, in many cases, all the instances that have come under his observation, thereby increasing the bulk of his work without making it sufficiently complete to be used as a work of reference. The various tables, especially those at the end of the work, which show to what extent certain principles of creating proper names prevail among different nations, are unique and interesting. The

idea deserves to be carried out more fully in a future edition.

The book will recommend itself to English readers by the clearness and unaffected simplicity of its style, which contrasts very favorably with the style of many German works on related subjects.

KING OF THE BELGIANS' PRIZE.

A PRIZE of 25,000 francs, or \$5,000, is offered every year by Leopold II., the king of the Belgians, we learn from the Journal of the Society of arts, for the best essay on some predetermined subject tending to advance the well-being of mankind. The competition is alternately restricted to Belgians, and thrown open to the world, being settled by an international jury. The subject of this year's competition, open to the whole world, was 'The best means of improving sandy coasts;' and the prize has been awarded by an international jury, including some of the most eminent English and French engineers, to M. De Mey, engineer of *ponts et chaussées*, Bruges, against fifty-nine competitors. This is only the second time that the international prize has been awarded; that in 1890, the year that the prize was instituted, having been adjudged to M. A. Wauters, archivist to the Brussels municipality, for his 'History of the origin of communal franchise in Belgium.' The subject for the essay at the next international competition is 'The progress of electricity applied to motive power and illumination, its applications and economical advantages.' The essays for competition, which must be written in French, or translated into that language, are to be sent before the 1st of January, 1899, to the minister of agriculture, industry, and public works, from whom the conditions of the competition may be obtained.

THE Haager society for the defence of the Christian religion has offered a prize of 400 Holland gulden — or medals, if preferred — for the best treatment of the two following subjects: 1°. A history of the application of historical criticism to biblical study, in order to establish a position which shall, if possible, avoid both dogmatism and scepticism; 2°. A biblical apologetic, or a comparison and estimate of the manner in which religion is unfolded and defended in the various books of the Bible. The competing essays must be signed with a motto, and forwarded, together with a sealed envelope indorsed with the motto and giving the name of the author, to Prof. A. Kusnen at Leyden before the 14th of December, 1896. The essays may be written in Latin, German (with Latin letters); French, or Dutch.



FIG. 1.—COMPOSITE FROM PHOTOGRAPHS.



FIG. 2.—COMPOSITE FROM DIRECT SITTINGS.



FIG. 3.—RULING FACE IN FIG. 1.



FIG. 4.—RULING FACE IN FIG. 2.

COMPOSITE PORTRAITS OF THREE DAKOTA WOMEN, SHOWING THE EFFECT OF THE METHOD OF PRODUCTION.



